

## ABSTRACT OF THE DISCLOSURE

A novel human glycosylsulfotransferase expressed in high endothelial cells (GST-3) and polypeptides related thereto, as well as nucleic acid compositions encoding the same, are provided. The subject polypeptides and nucleic acid compositions find use in a variety of applications, including research, diagnostic, and therapeutic agent screening applications. Also provided are methods of inhibiting selectin mediated binding events and methods of treating disease conditions associated therewith, particularly by administering an inhibitor of at least one of GST-3 or KSGal6ST, or homologues thereof.

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